What is claimed is:

1. A method for controlling a cooking process on a cooktop including a cooktop plate which is made, in particular, of glass ceramics and which has a material thickness s defined by a flat upper surface and a flat lower surface, in a direction perpendicular to the main directions of extension of said upper and lower surfaces, further including at least one cooking zone that can be heated by a heating means located beneath the cooktop plate when the cooktop is in the installed position, and further including an electrical control system for controlling the heat output of the heating means, and further including first and second heat sensor units located beneath the cooktop plate,
the method comprising the step whereby the first heat sensor unit (6.1) measures substantially a heat flow emanating downward only from the cooktop plate (2) in the area of the cooking zone (4), and the second heat sensor unit (6.2) measures substantially a heat flow emanating downward, in the area of the cooking zone (4), from the cooktop plate (2) and a cooking utensil (14) placed thereon, and
a comparison value is calculated in the electrical control system from the output signals of the two heat sensor units (6.1, 6.2) and compared to predetermined and stored reference values, and the heat output of the heating means (16) is controlled as a function thereof.

2. The method as recited in Claim 1,
wherein the first and second heat sensor units (6.1, 6.2) detect the thermal radiation as a part of the respective heat flow.

3. The method as recited in one of Claims 1 or 2,
wherein for purposes of controlling the cooking process, in addition, the emissivity of the bottom of a cooking utensil (14) placed on the cooking zone (4) is determined using an additional heat sensor unit (6.2).

4. A cooktop for carrying out a method as recited in at least one of Claims 1 to 3, comprising a cooktop plate which is made, in particular, of glass ceramics and which has a material thickness s defined by a flat upper surface and a flat lower surface, in a direction perpendicular to the main directions of extension of said upper and lower surfaces, further comprising at least one cooking zone that can be heated by a heating means located beneath the cooktop plate when the cooktop is in the installed position, further comprising a first heat

sensor unit located beneath the cooktop plate and designed to measure a heat flow emanating downward substantially only from the cooktop plate in the area of cooking zone, and further comprising an electrical control system which includes a processing unit and a memory and in which the heat output of the heating means can be controlled as a function of the output signal of the first heat sensor unit,
wherein a second heat sensor unit (6.2) designed to measure a heat flow emanating downward substantially from the cooktop plate (2) and a cooking utensil (14) placed thereon in the area of the cooking zone (4) is located beneath the cooktop plate (2),
it being possible for a comparison value to be generated in the processing unit from the output signals of the first and second heat sensor units (6.1, 6.2), and
the heat output of the heating means (16) being controllable as a function of a comparison of the comparison value to predetermined reference values stored the memory.

5. The cooktop as recited in Claim 4,
wherein the first heat sensor unit (6.1) includes a contact temperature sensor.

6. The cooktop as recited in Claim 4,
wherein the measuring range of the first heat sensor unit (6.1) is limited to the measurement of thermal radiation in a first wavelength range, and, in the area of the cooking zone (4), at least in the sensing region of the first heat sensor unit (6.1), the cooktop plate (2) has a transmittance of less than 20 % for thermal radiation of the first wavelength range.

7. The cooktop as recited in Claim 6,
wherein at least in the sensing region of the first heat sensor unit (6.1), the transmittance of the cooktop plate (2) for thermal radiation of the first wavelength range is approximately 0 %.

8. The cooktop as recited in at least one of Claims 4 to 7,
wherein the measuring range of the second heat sensor unit (6.2) is limited to the measurement of thermal radiation in a second wavelength range, which is different from the first wavelength range, and, in the area of the cooking zone (4), at least in the sensing region of the second heat sensor unit (6.2), the cooktop plate (2) has a transmittance greater than 20 % for thermal radiation of the second wavelength range.

9. The cooktop as recited in Claim 8,

wherein at least in the sensing region of the second heat sensor unit (6.2), the transmittance of the cooktop plate (2) for thermal radiation of the second wavelength range is at least about 50 %.

10. The cooktop as recited in at least one of Claims 6 to 9,
wherein the first and second heat sensor units (6.1, 6.2) are designed to measure thermal radiation and have at least some components in common, in particular a shared heat sensor.

11. The cooktop as recited in at least one of Claims 4 to 10,
wherein the material thickness s of the cooktop plate (2) is reduced at least in the sensing region of the second heat sensor unit (6.2).

12. The cooktop as recited in Claim 11,
wherein at least in the sensing region of the second heat sensor unit (6.2), the cooktop plate (2) is designed as a converging lens (26) in a direction from the cooktop plate (2) toward the second heat sensor unit (6.2).

13. The cooktop as recited in at least one of Claims 4 to 12,
wherein at least one deflector means (28) is disposed in the optical path from the cooktop plate (2) and/or the bottom of the cooking utensil to the first and/or second heat sensor unit(s) (6.1, 6.2).

14. The cooktop as recited in at least one of Claims 4 to 13,
wherein the second heat sensor unit (6.2) has an optical filter disposed in the optical path from the cooktop plate (2) and/or the bottom of the cooking utensil to the second heat sensor unit (6.2), said optical filter being made of the same material as the cooktop plate (2).

15. The cooktop as recited in at least one of Claims 4 to 14,
wherein the emissivity of the bottom of a cooking utensil (14) placed on the cooking zone (4) is determinable using the second heat sensor unit (6.2).

16. The cooktop as recited in at least one of Claims 4 to 15,
wherein a third heat sensor unit is provided whose measuring range is limited to thermal radiation in a third wavelength range, which is different from the second wavelength range,

and, in the area of the cooking zone (4), at least in the sensing region of the third heat sensor unit, the cooktop plate (4) **[sic. (2)]** has a transmittance greater than 30 % for thermal radiation of the third wavelength range.

17. The cooktop as recited in at least one of Claims 4 to 16,
wherein in the sensing region of the first heat sensor unit (6.1), the cooktop plate is provided on its upper surface (2.1) with a coating having a transmittance of approximately 0 %.

18. The cooktop as recited in Claim 17,
wherein the coating has a reflectance of about 100 %.

19. The cooktop as recited in Claim 17,
wherein the coating has a absorptance of about 100 %.

20. A system comprising a cooktop as recited in at least one of Claims 4 to 19 and a cooking utensil,
wherein the bottom of the cooking utensil is provided with a coating, at least in the area that overlaps the sensing region of second heat sensor unit (6.2) when the cooking utensil (14) is placed on the cooking zone (4), said coating having a predetermined emissivity, which is stored in the memory of the electrical control system.